

**IN THE CLAIMS:**

1       1. (CURRENTLY AMENDED) A method for managing a construction project comprising:

3           generating, by one or more central processor units (CPUs) executing an application,  
4           a computerized simulation model for the construction project representing project  
5           materials in the construction project;

6           mapping the project materials represented in the computerized simulation model  
7           into constructible elements;

8           displaying the constructible elements as three-dimensional objects in a graphical  
9           user interface;

10          determining at least one work step for each constructible element;

11          receiving a selection in the graphical user interface of at least one constructible  
12          element represented as a three-dimensional object to create a work package in the com-  
13          puterized simulation model, the work package comprising the at least one constructible  
14          element and the at least one work step for the at least one constructible element; and

15            receiving a selection in the graphical user interface of a visual display of the work  
16            package and an indication of a sequencing to apply to the work package with respect to a  
17            plurality of other work packages, which each comprise at least one constructible element  
18            and at least one work step for release to work crews.

1       2. (ORIGINAL) The method of claim 1, further comprising organizing the constructible  
2       elements into construction areas in the computerized simulation model.

1       3. (ORIGINAL) The method of claim 1, further comprising organizing the constructible  
2       elements into construction crafts in the computerized simulation model.

1    4. (ORIGINAL) The method of claim 1, further comprising organizing the constructible  
2    elements into systems for testing and turnover in the computerized simulation model.

1    5. (ORIGINAL) The method of claim 1, further comprising prioritizing procurement of  
2    the constructible elements based on target installation dates of the constructible elements.

1    6. (ORIGINAL) The method of claim 1, further comprising generating a visual display of  
2    the computerized simulation model.

1    7. (ORIGINAL) The method of claim 1, further comprising generating an interactive  
2    three-dimensional graphical display of the computerized simulation model.

1    8. (CURRENTLY AMENDED) The method of claim 1, wherein receiving a selection in  
2    the graphical user interface of the at least one constructible element further comprises  
3    allowing a user to point-and-click on the at least one constructible element ~~in a visual~~  
4    ~~display of the computerized simulation model~~ to select the at least one constructible ele-  
5    ment.

1    9. (ORIGINAL) The method of claim 8, further comprising providing status information  
2    for the work package during creation of the work package.

1    10. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-  
2    formation further comprises displaying ~~in a visual display of the computerized simulation~~  
3    ~~model~~ work that has been completed on the construction project.

1 11. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-  
2 formation further comprises displaying ~~in a visual display of the computerized simulation~~  
3 ~~model~~ a time estimate for the work package.

1 12. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-  
2 formation further comprises displaying ~~in a visual display of the computerized simulation~~  
3 ~~model~~ a cost estimate for the work package.

1 13. (ORIGINAL) The method of claim 1, wherein the computerized simulation model is  
2 an interactive three-dimensional computerized simulation model.

1 14. (CANCELLED)

1 15. (CURRENTLY AMENDED) The method of claim 1, further comprising assigning  
2 the work package to a work crew in response to receiving a selection of the work package  
3 ~~in a visual display of the computerized simulation model via a~~ the graphical user inter-  
4 face.

1 16. (ORIGINAL) The method of claim 1, further comprising: accessing engineering data  
2 for the construction project in a database, wherein generating a computerized simulation  
3 model is based on the engineering data; and accessing manufacturing data for the con-  
4 struction project in an other database, wherein mapping the project materials into con-  
5 structible elements is based on the manufacturing data.

1 17. (CURRENTLY AMENDED) A system for managing a construction project compris-  
2 ing:

3           a central processor unit (CPU); and

4           a memory electronically coupled to the CPU, the memory including an applica-  
5        tion for execution by the CPU, the application comprising

6                a project design module configured to generate a computerized  
7        simulation model of the construction project representing project materials  
8        in the construction project,

9                a mapping module configured to map the project materials repre-  
10        sented in the computerized simulation model into constructible elements,

11                a graphical user interface configured to display the constructible  
12        elements as three-dimensional objects;

13                a task detailing module configured to determine at least one work  
14        step for each constructible element,

15                a work packaging module configured to create a work package in  
16        the computerized simulation model, the work package comprising at least  
17        one constructible element selected in the graphical user interface and the  
18        at least one work step for the at least one constructible element, and

19                a sequencing module configured to receive a selection of a visual  
20        display of the work package and an indication of a sequencing to apply to  
21        the work package with respect to sequence—a plurality of other work pack-  
22        ages, which each comprise at least one constructible element and at least  
23        one work step for release to work crews.

1        18. (ORIGINAL) The system of claim 17, wherein the project design model comprises a  
2        craft organization module configured to organize the constructible elements into con-  
3        struction crafts in the computerized simulation model.

- 1 19. (ORIGINAL) The system of claim 17, wherein the project design model comprises a  
2 construction area organization module configured to organize the constructible elements  
3 into construction areas in the computerized simulation model.
- 1 20. (ORIGINAL) The system of claim 17, wherein the project design model comprises a  
2 system organization module configured to organize the constructible elements into sys-  
3 tems for testing and turnover in the computerized simulation model.
- 1 21. (CURRENTLY AMENDED) The system of claim 17, wherein the graphical user in-  
2 terface is further configured to allow a user to point-and-click on the at least one con-  
3 structible element ~~in a visual display of the computerized simulation model~~ to select the  
4 at least one constructible element for the work package.
- 1 22. (CURRENTLY AMENDED) The system of claim 17, wherein the work packaging  
2 module is further configured to allow a user to point-and-click on the at least one con-  
3 structible element ~~in a visual display of the computerized simulation model~~ to select the  
4 at least one constructible element for the work package.
- 1 23. (CURRENTLY AMENDED) The system of claim 22, wherein the application further  
2 comprises a status module configured to provide status information for the construction  
3 project ~~in a visual display of the computerized simulation model~~ during creation of the  
4 work package.
- 1 24. (ORIGINAL) The system of claim 23, wherein the status information comprises a  
2 time estimate for the work package.

- 1 25. (ORIGINAL) The system of claim 23, wherein the status information comprises a
- 2 cost estimate for the work package.
- 1 26. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the application is
- 2 configured to generate a visual display of the computerized simulation model.
- 1 27. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the application is
- 2 configured to generate an interactive three-dimensional graphical display of the comput-
- 3 erized simulation model.
- 1 28. (ORIGINAL) The system of claim 17, wherein the computerized simulation model is
- 2 an interactive three-dimensional computerized simulation model.
- 1 29. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the sequencing
- 2 module is further configured to assign a plurality of work packages to work crews.
- 1 30. (ORIGINAL) The system of claim 29, wherein the work packaging module further
- 2 comprises a reprioritization module configured to reprioritize the sequence of the work
- 3 packages.
- 1 31. (ORIGINAL) The system of claim 17, wherein the work packaging module further
- 2 comprises a constraints analysis module configured to determine whether the work pack-
- 3 age is valid.

1 32. (ORIGINAL) The system of claim 17, wherein the work packaging module further  
2 comprises a verification module configured to analyze resource constraints for the con-  
3 struction project to determine whether a work crew can execute the work package subject  
4 to the constraints.

1 33. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the work packaging  
2 module further comprises a converter module configured to convert data accessed from  
3 an external database into a common format for use in a matching module.

1 34. (CURRENTLY AMENDED) A computer readable medium storing computer pro-  
2 gram code for managing a construction project, the computer program code when exe-  
3 cuted to:

4 generate a computerized simulation model of the construction project, the com-  
5 puterized simulation model representing project materials in the construction project;

6 map the project materials represented in the computerized simulation model into  
7 constructible elements;

8 display the constructible elements as three-dimensional objects in a graphical user  
9 interface;

10 determine at least one work step for each constructible element;

11 receive a selection in the graphical user interface of at least one constructible ele-  
12 ment to create a work package in the computerized simulation model, the work package  
13 comprising the at least one constructible element and the work steps for the at least one  
14 constructible element; and

15 receiving a selection in the graphical user interface of a visual display of the work  
16 package and an indication of a sequencing to apply to the work package with respect to  
17 sequence a plurality of other work packages, which each comprise at least one construct-  
18 ible element and at least one work step for release to work crews.

1    35. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, further  
2    comprising computer program code to generate a visual display of the computerized  
3    simulation model.

1    36. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, further  
2    comprising computer program code to generate an interactive three-dimensional graphi-  
3    cal display of the computerized simulation model.

1    37. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, wherein  
2    the computerized simulation model is an interactive three-dimensional computerized  
3    simulation model.

1    38. (CURRENTLY AMENDED) The computer readable medium of claim 34, further  
2    comprising computer program code to allow a user to point-and-click on the at least one  
3    constructible element ~~in a visual display of the computerized simulation model~~ to select  
4    the at least one constructible element.

1    39. (CURRENTLY AMENDED) A system for managing a construction project compris-  
2    ing:

3            a central processor unit (CPU);

4            means for generating a computerized simulation model of a construction project,  
5            the computerized simulation model representing project materials in the construction pro-  
6            ject;

7            means for mapping the project materials represented in the computerized simula-  
8            tion model into at least one constructible element;

9           means for displaying the constructible elements as three-dimensional objects in a  
10          graphical user interface;

11          means for determining at least one work step for each constructible element;

12          means for creating a work package in the computerized simulation model, the  
13          work package comprising the at least one constructible element selected in the graphical  
14          user interface and the work steps for the at least one constructible element; and

15          means for receiving a selection in the graphical user interface of a visual display  
16          of the work package and an indication of a sequencing to apply to the work package with  
17          respect to a plurality of other work packages, which each comprise at least one construct-  
18          ible element and at least one work step for release to work crews.

1       40. (ORIGINAL) The system recited in claim 39, further comprising: means for generat-  
2       ing a visual display of the computerized simulation model.